

1. An injection molding machine for low-melting point metallic material in which the injection molding machine is constituted by:

an injection mechanism having a tip portion, a melting cylinder, and a rear-end portion;

said tip portion having a weighing chamber with a required length communicating with a nozzle member at a first end and with said melting cylinder at a second end;

said melting cylinder having a supply port on an upper side and an agitating and injection means disposed within, said melting cylinder provided obliquely in a manner that a tip portion end is directed in a downward direction such that a molten metal in said melting cylinder flows down by self-weight to be stored in the tip portion, said agitating and injection means adapted to rotate or, advance or retreat freely;

said rear-end portion aligned with and spaced behind an upward end of said melting cylinder including a device driving those means; and ,

a mold-clamping mechanism disposed external to and downward from the nozzle member of said tip portion; wherein said agitating and injection means is constituted by an agitating member in which a plurality of agitating wings are formed intermittently about an outer periphery of a tip portion of a hollow shaft that extends a

length of said melting cylinder, said agitating wings with an external diameter approximately equal to an inner diameter of the melting cylinder, said hollow shaft having a through hole at a central position and an injection rod having an injection plunger attached unitarily to a tip of said injection rod inserted into said through-hole, said injection plunger freely slidable in a central portion of the agitating member and extendable beyond the tip of the agitating member so as to insert into said weighing chamber freely.

2. The injection molding machine for low-melting point metallic material according to claim 1, wherein said injection rod has a screw shutting off a molten metal intruding into a clearance between said injection rod and a hollow shaft portion on an intermediate region of said hollow shaft.

3. The injection molding machine for low-melting point metallic material according to claim 1, wherein said injection plunger is provided with a high-temperature resistant sealing ring on an outer periphery of a tip portion of said injection plunger and has a flowing port through the inside of the tip of a conical plunger to a fitting groove of the sealing ring.

4. The injection molding machine for low-melting point metallic material according to claim 1, further comprising:

a base supporting said mold-clamping mechanism;

a pedestal on said base spaced apart from said mold-clamping mechanism;

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a frame installed on said pedestal having an inclined upper surface incorporating a pair of support shafts at a lower end of said upper surface;

a hydraulic cylinder spaced a required interval from said upward end of said melting cylinder, said hydraulic cylinder oriented in a downward direction, an upper end of said hydraulic cylinder at a tip portion of said frame; and

supporting legs, projecting from a lower side of said hydraulic cylinder said supporting legs inserted respectively in said support shafts; wherein a nozzle touch device is formed when said injection rod is unitarily coupled by a tie bar across said interval to said hydraulic device.

5. The injection molding machine for low-melting point metallic material according to claim 1, wherein a driving device for said agitating member is constituted by an electric motor, which is provided on sides of a supporting legs of the melting cylinder so as to move together with said melting cylinder.

6. The injection molding machine for low-melting point metallic material according to claim 4, further comprising:

ALL a nozzle touch block interposed between said mold-clamping mechanism and said pedestal and on the lower tip of said nozzle touch device, wherein said nozzle touch device is placed on said pedestal so as to swivel freely and wherein touching a nozzle member attached to the front of the nozzle touch block to moldings is performed by moving the pedestal and nozzle touching device to the mold clamping mechanism across the nozzle touch block and a rear of an upper surface of the base.

7. The injection molding machine for low-melting point metallic material according to claim 4, wherein said nozzle touch block comprises:

a second nozzle member provided horizontally on a front face of said nozzle touch block aligned with an opening in said mold-clamping mechanism;

an inclined rear surface of said nozzle touch block positioned on an upper inner side;

a gate for nozzle touching formed on said inclined rear surface communicating with the nozzle member of said injection mechanism; and

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connecting said second nozzle member and said gate.